

PRELIMINARY ASSESSMENT & SITE INSPECTION
OF
THE SAAD SITE
TROUSDALE ROAD
NASHVILLE, TENNESSEE

TDD#: 04-8609-02
04-8610-23
04-8611-07

EPA ID: E002E

EPA OSC: CAROL J. WALSH

TAT MEMBER: FREDA D. GRIFFIS

DATE SUBMITTED: 5 NOVEMBER 1986

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PRELIMINARY ASSESSMENT & SITE INSPECTION
OF
THE SAAD SITE

I. INTRODUCTION

This report has been prepared to satisfy the requirements of Technical Direction Document (TDD) 04-8610-23 issued to the Roy F. Weston, Inc., Technical Assistance Team (TAT), by Region IV, U.S. Environmental Protection Agency (EPA).

The Preliminary Assessment (PA) of the Saad Site was developed based on information obtained from state files. The PA was conducted by Freda Griffis during the week of 10 September 1986.

The Site Inspection (SI) of the Saad Site was conducted by Freda Griffis, TAT, and Carol Walsh, EPA OSC, between 10 September and 12 September 1986. Also participating in the SI was George Prince, EPA, ERT.

Preliminary Assessment and Site Inspection forms together with supporting photographs, maps and logs are attached as supporting appendices.

II. SITE DESCRIPTION

A. Location

The Saad Site is located at 3655 Trousdale Road in Nashville, Davidson County, Tennessee, 38204. A state location map is included as Figure 1. A site location map is attached as Figure 2.

B. Site Layout

The Saad Site consists of a concrete pad with a cinder block wall containing 14 above ground tanks and 1 underground tank (See Figure 3 - Site Diagram). Table 1 shows tank dimensions by identification number. Approximately 20 feet outside the wall, on the treeline which separates the Saad property from the CSX Transportation Railyard, is a monitoring well. It is approximately 44 feet deep and is visibly contaminated with an oily substance. This well is reportedly located next to a sinkhole which was filled with debris and waste materials from the Saad Company's process.

Adjacent to the Saad property exists a Brick Manufacturing facility.

IV. Waste Types and Quantities

Wastes are contained on-site in tanks (estimated quantities are shown in Table 1). There are also scattered, empty 55 gallon oil drums on site. Historically, wastes were allegedly dumped into a lagoon which was located in a sinkhole and has since been filled in. The wastes on-site currently consist of oily wastes, sludge, and rain water contaminated with volatile organics, PCB's, Base Neutral/Acid Extractables and low concentrations of total metals. The latest analytical results from groundwater monitoring wells on and off-site, Croft Springs, and the CSX runoff containment lagoon are included as Appendix 5. The analytical results are from samples collected by EPA Emergency Response Team from 10 September 1986 to 12 September 1986.

C. Ownership History

John P. Saad & Sons, Inc. began operation of a waste oil pick-up service on Trousdale Road in 1970. Waste oil was brought to the site in tank trucks. In 1978 officials from the Tennessee Department of Water Quality Control discovered a discharge pond behind the facility which contained organic waste solvents. In 1982 the Water Resources Division of the Tennessee Department of Conservation was consulted about how the Saad waste may impact the Croft Spring.

One reason this site is of continued interest to EPA is because the Croft Estate which is near the Saad Property is to be willed to the Cumberland Museum which intends to convert the land into a children's park. The major surface water feature of the Croft Estate is a spring near the homestead which was once used as its water supply. This spring, and the stream it forms, would also be an important park feature and there is public concern that children may become exposed to chemical contaminants present in the water. There are also several private wells down gradient of the site even though the entire area is on municipal water taken from the Cumberland River. These wells are mainly used for purposes other than drinking, e.g. irrigation of lawns and gardens.

III. Environmental Setting

The Saad Site has been ranked under the Hazard Ranking System (HRS). Copies of the HRS worksheets and documentation are included in Appendix 4.

The Saad Site and Croft farm are both underlain by rocks of the Ordovician Age. The two formations underlying the site are the Bigby Cannon Limestone and the Hermitage Formation, respectively. Both formations range in thickness from 60 to 100 feet. The Bigby Cannon limestone is dark gray to brownish-gray in color, thin to medium bedded with pronounced conchoidal fracturing present. Fracture zones in the formation tend to form solution cavities due to groundwater movement. Because of the extensive fracturing, a network of groundwater pathways may develop in the formation making groundwater flow possible in numerous directions. Sinkholes have developed in the vicinity of the site creating recharge zones for groundwater. The Croft spring is a discharge point for groundwater under the site and is believed to be at the contact of the Bigby Cannon Limestone and Hermitage Formation. The stream formed by the Croft spring flows into Seven Mile Creek which joins Mill Creek in route to the Cumberland River. Approximately 1/2 mile downstream of the Cumberland River and Mill Creek confluence is the river intake for the city of Nashville's drinking water purification system. The total distance from the Croft spring to the river intake is approximately 9 1/2 nautical miles.

APPENDIX 1

Photo Log

POOR LEGIBILITY

**PORTIONS OF THIS DOCUMENT
MAY BE UNREADABLE, DUE TO
THE QUALITY OF THE
ORIGINAL**



PHOTO# 1
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: 14 Above ground tanks on-site

Location: Saad Site, Trousdale Road, Nashville, TN

Date: 11 Sept. 86

Photographer: F. Griffiths

Film: Kodak ASA: 200

TDD#: 04-8609-02

Time:

Witness:

Location of Negative:

TAT Photo file

PHOTO# 2
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: Measuring tank dimensions and determining contents

Location: Saad Site

Date: 11 Sept. 86

Photographer: F. Griffiths

Film: Kodak ASA: 200

TDD#: 04-8609-02

Time:

Witness:

Location of Negative:

TAT Photo file



PHOTO# 3
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: Some tanks had false bottoms

Location: Saez Site

Date: 11 Sept 86

Photographer: F. Griffiths

Film: Kodak ASA: 200

TDD#: 124-8609-02

Time:

Witness:

Location of Negative:

TAT office



PHOTO# 4
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: Empty drums on-site and a pipeline
 from CSX Railroad

Location: Saez Site

Date: 11 Sept. 86

Photographer: F. Griffiths

Film: Kodak ASA: 200

TDD#: 04-2609-02

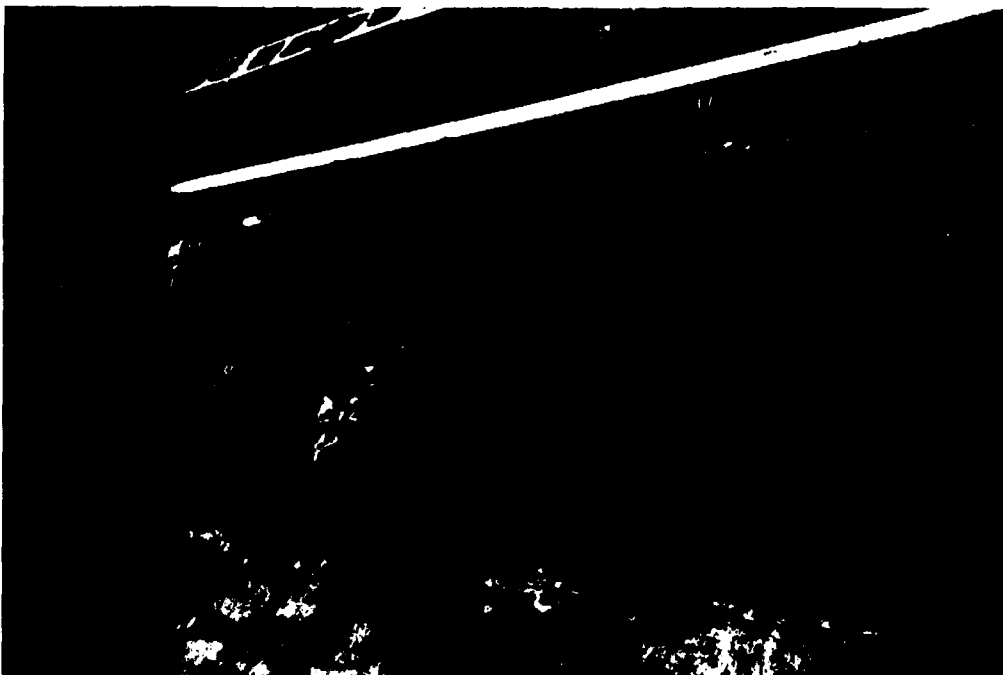
Time:

Witness:

Location of Negative:

TAT office

1
8
0008



PHOTO# 5
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: *There is one underground tank on-site*

Location: *Saad Site*

Date: *11 Sept. 86*

Photographer: *F. GRIFFIS*

Film: *Kodak ASA: 200*

TDD#: *04 2609-02*

Time:

Witness:

Location of Negative:

TAT Office



PHOTO# 6
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: *The on-site monitoring well was visibly contaminated with oil.*

Location: *Saad Site*

Date: *11 Sept. 86*

Photographer: *F. GRIFFIS*

Film: *Kodak ASA: 200*

TDD#: *04 2609-02*

Time:

Witness:

Location of Negative:

TAT Office



PHOTO# 7
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: *Gaining access to off-site Monitoring wells*

Location: *Saad Site*

Date: *11 Sept. 86*

Photographer: *F. Griffiths*

Film: *Kodak ASA: 700*

TDD#: *04-2609-02*

Time:

Witness:

Location of Negative:

7A1 Office



PHOTO# 8
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: *This well casing had been knocked over by heavy equipment*

Location: *Saad Site*

Date: *11 Sept 86*

Photographer: *F. Griffiths*

Film: *Kodak ASA: 700*

TDD#: *04-2609-02*

Time:

Witness:

Location of Negative:

7A1 Office



PHOTO# 9
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: Sampling Monitoring well at
 CSX Railroad

Location: Saad Site

Date: 12 Sept. 86

Photographer: F. Griffiths

Film: Kodak ASA: 200

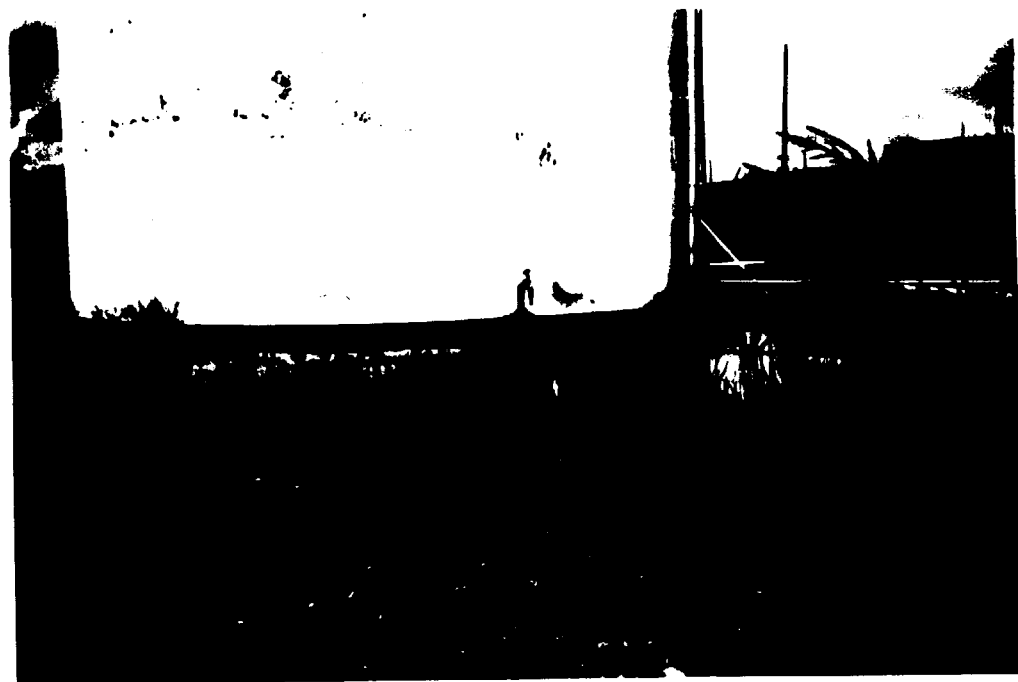
TDD#: 04-8609-02

Time:

Witness:

Location of Negative:

JAT office



PHOTO# 10
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: Bermed area around Diesel fuel storage
 tank contained Diesel Fuel / oil and rain water

Location: Saad Site

Date: 12 Sept. 86

Photographer: F. Griffiths

Film: Kodak ASA: 200

TDD#: 04-8609-02

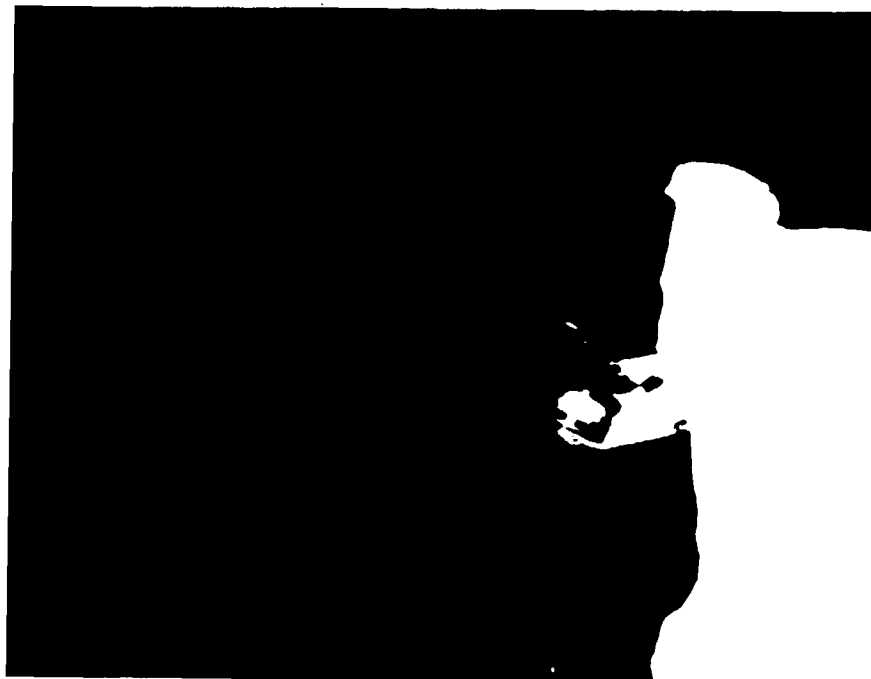
Time:

Witness:

Location of Negative:

JAT office

1
8
0011



PHOTO# 11

**OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY**

Act: Sampling water in Diesel Containment
Area at CSX Rail yard

Location: S22 d Site

Date: 12 Sept. 86

Photographer: F. Griffiths

Look ASA: 200

TDD#: 04-8609-02

Time:

Witness:

Location of Negative:

TAT Office



PHOTO# 12

**OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY**

Subject: CSX Waste Water Treatment Plant Lagoon
(located over old sinkhole). Pipes are for release of
methane gas from old sinkhole underneath.

Location: S22 d Site

Date: 13 Sept. 86

Photographer: C. Walsh

Film: Kodak ASA: 200

TDD#: 04-8609-02

Time:

Witness:

Location of Negative:

TAT Office

18

0012



PHOTO# 13
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject: Creek / drainage easement near
Molensville Road or the Croft Farm.

Location: Seed Site

Date: 13 Sept 85

Photographer: C. Walsh

Film: Kodak ASA: 800

TDD#: 014-2609-02

Time:

Witness:

Location of Negative:

FAT 0220

PHOTO#
OFFICIAL PHOTOGRAPH
ENVIRONMENTAL PROTECTION AGENCY

Subject:

Location:

Date:

Photographer:

Film: ASA:

TDD#:

Time:

Witness:

Location of Negative:

180013

APPENDIX 2

Completed Preliminary Assessment Form



**POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT**

I. IDENTIFICATION

01 STATE TN 02 SITE NUMBER E002E

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) <u>Saad Site</u>		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER <u>Trousdale Road (3655)</u>	
03 CITY <u>Nashville</u>	04 STATE <u>TN</u>	05 ZIP CODE	06 COUNTY <u>DAVISON</u>
09 COORDINATES LATITUDE <u>36°</u>		LONGITUDE <u>87°</u>	

10 DIRECTIONS TO SITE (Starting from nearest public road): From Nashville take I-65 South to the Second Harding Road exit. Go approximately 2 blocks to Trousdale. Go left (?). Site is next to Franklin Brick Co.

III. RESPONSIBLE PARTIES

01 OWNER (If known) <u>John P. Saad & Sons</u>		02 STREET (Business making residential) <u>3655 Trousdale Road</u>	
03 CITY <u>Nashville</u>	04 STATE <u>TN</u>	05 ZIP CODE	06 TELEPHONE NUMBER <u>()</u>
07 OPERATOR (If known and different from owner) <u>John Saad</u>		08 STREET (Business making residential) <u>228 Pethbridge Road</u>	
09 CITY <u>228 Pethbridge, Nolensville</u>		10 STATE <u>TN</u>	12 TELEPHONE NUMBER <u>615 776-1233</u>

13 TYPE OF OWNERSHIP (Check one)
☒ A PRIVATE ☐ B FEDERAL: _____ (Agency name)
☐ C STATE ☐ D COUNTY ☐ E MUNICIPAL
☐ F OTHER: _____ (Specify) ☐ G UNKNOWN

14 OWNER OPERATOR NOTIFICATION ON FILE (Check all that apply):
☐ A RCRA 3001 DATE RECEIVED _____ MONTH DAY YEAR ☐ B UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED _____ MONTH DAY YEAR ☐ C NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION <input checked="" type="checkbox"/> YES DATE <u>9/10/86</u> MONTH DAY YEAR <input type="checkbox"/> NO		BY (Check all that apply): <input checked="" type="checkbox"/> A EPA <input checked="" type="checkbox"/> B EPA CONTRACTOR <input type="checkbox"/> C STATE <input type="checkbox"/> D OTHER CONTRACTOR <input type="checkbox"/> E LOCAL HEALTH OFFICIAL <input type="checkbox"/> F OTHER _____ CONTRACTOR NAME(S): <u>ROY F. WESTON SPER (TAT)</u> (Specify)	
02 SITE STATUS (Check one): <input type="checkbox"/> A ACTIVE <input checked="" type="checkbox"/> B INACTIVE <input type="checkbox"/> C UNKNOWN		03 YEARS OF OPERATION BEGINNING YEAR <u>1970</u> ENDING YEAR <u>1982</u> <input type="checkbox"/> UNKNOWN	
04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED <u>WASTE OIL, Solvents</u> <u>Trichloroethylene</u> <u>Chloroform</u> <u>? Suspected</u> <u>Toluene</u> <u>Carbon tetrachloride</u> <u>Xylene</u> <u>Chlorobenzene</u>			
05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION <u>Groundwater Contamination</u>			

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents):
☒ A HIGH (Inspection required promptly) ☐ B MEDIUM (Inspection required) ☐ C LOW (Inspect on time available basis) ☐ D NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT <u>Edward Grunwald</u>	02 OF (Agency/Organization) <u>FIT</u>	03 TELEPHONE NUMBER <u>(615) 776-1233</u>	
04 PERSON RESPONSIBLE FOR ASSESSMENT <u>Freda Griffs</u>	05 AGENCY <u>TAT</u>	06 ORGANIZATION <u>Weston SPER</u>	07 TELEPHONE NUMBER <u>(615) 776-1233</u>
08 DATE <u>9/10/86</u> MONTH DAY YEAR			



**POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT**

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE **TN** 02 SITE NUMBER **E002E**

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ **A GROUNDWATER CONTAMINATION**
03 POPULATION POTENTIALLY AFFECTED _____

02 ☒ **OBSERVED (DATE 12 Sept. 86)**
04 NARRATIVE DESCRIPTION

☐ **POTENTIAL** ☒ **ALLEGED**

groundwater monitoring wells on and off site are visibly contaminated with an oily substance

01 ☒ **B SURFACE WATER CONTAMINATION**
03 POPULATION POTENTIALLY AFFECTED _____

02 ☒ **OBSERVED (DATE 10 Sept. 86)**
04 NARRATIVE DESCRIPTION **2 Feb. 80**

☐ **POTENTIAL** ☒ **ALLEGED**

Craft Springs is contaminated with Diesel fuel
water samples taken from Craft Spring contain:
Chloroform - 151 ug/l, Carbon tetrachloride - 71 ug/l, chlorobenzene - 65 ug/l

01 ☐ **C CONTAMINATION OF AIR**
03 POPULATION POTENTIALLY AFFECTED _____

02 ☐ **OBSERVED (DATE _____)**
04 NARRATIVE DESCRIPTION

☐ **POTENTIAL** ☐ **ALLEGED**

01 ☐ **D FIRE EXPLOSIVE CONDITIONS**
03 POPULATION POTENTIALLY AFFECTED _____

02 ☐ **OBSERVED (DATE _____)**
04 NARRATIVE DESCRIPTION

☐ **POTENTIAL** ☐ **ALLEGED**

01 ☐ **E DIRECT CONTACT**
03 POPULATION POTENTIALLY AFFECTED _____

02 ☐ **OBSERVED (DATE _____)**
04 NARRATIVE DESCRIPTION

☐ **POTENTIAL** ☐ **ALLEGED**

01 ☒ **F CONTAMINATION OF SOIL**
03 AREA POTENTIALLY AFFECTED _____

02 ☒ **OBSERVED (DATE 2 Feb. 80)**
04 NARRATIVE DESCRIPTION

☐ **POTENTIAL** ☒ **ALLEGED**

Soil samples taken from ditch behind Seed facility contain:
Trichloroethylene - 90 ug/l, Toluene - 70 ug/l, xylene - 237 ug/l

01 ☐ **G DRINKING WATER CONTAMINATION**
03 POPULATION POTENTIALLY AFFECTED _____

☐ **POTENTIAL** ☐ **ALLEGED**

01 ☐ **H WORKER EXPOSURE/INJURY**
03 WORKERS POTENTIALLY AFFECTED _____

☐ **POTENTIAL** ☐ **ALLEGED**

01 ☐ **I POPULATION EXPOSURE/INJURY**
03 POPULATION POTENTIALLY AFFECTED _____

☐ **POTENTIAL** ☐ **ALLEGED**

ug/l
for soil?



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
TN 50025

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

01 ☐ K. DAMAGE TO FAUNA
04 NARRATIVE DESCRIPTION (include name(s) of species)

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

01 ☐ L. CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES
(Spills, runoff, standing liquids, leaking drums)
03 POPULATION POTENTIALLY AFFECTED _____

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

04 NARRATIVE DESCRIPTION

01 ☐ N. DAMAGE TO OFFSITE PROPERTY
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

01 ☒ P. ILLEGAL/UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION

02 ☒ OBSERVED (DATE 7 April 80)

☐ POTENTIAL

☒ ALLEGED

Berry Salkin, TNWQC, discovered that Salkin was dumping waste into a gravel pit

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

Tanks containing oily wastes abandoned on-site - 14 tanks above ground and one underground tank


III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references e.g., state files, sample analysis reports)

APPENDIX 3

Completed Site Inspection Form

 POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 1 - SITE LOCATION AND INSPECTION INFORMATION				I. IDENTIFICATION 01 STATE <u>TX</u> 02 SITE NUMBER <u>6026</u>	
II. SITE NAME AND LOCATION					
01 SITE NAME (Legal, common, or descriptive name of site) <u>Sand 340</u>			02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER <u>3055 Trousdale Road</u>		
03 CITY <u>Dallas</u>		04 STATE <u>TX</u>	05 ZIP CODE <u>75214</u>	06 COUNTY <u>Dallas</u>	07 COUNTY CODE <u>00000</u>
08 COORDINATES LATITUDE <u>32.8</u> LONGITUDE <u>96.8</u>		10 TYPE OF OWNERSHIP (Check one) <input checked="" type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> F. OTHER _____ <input type="checkbox"/> G. UNKNOWN			
III. INSPECTION INFORMATION					
01 DATE OF INSPECTION <u>9.10.86</u> MONTH DAY YEAR		02 SITE STATUS <input type="checkbox"/> ACTIVE <input checked="" type="checkbox"/> INACTIVE		03 YEARS OF OPERATION <u>1970</u> <u>1982</u> UNKNOWN BEGINNING YEAR ENDING YEAR	
04 AGENCY PERFORMING INSPECTION (Check all that apply) <input checked="" type="checkbox"/> A. EPA <input checked="" type="checkbox"/> B. EPA CONTRACTOR <u>WPS-TAT</u> <input type="checkbox"/> C. MUNICIPAL <input type="checkbox"/> D. MUNICIPAL CONTRACTOR _____ <input type="checkbox"/> E. STATE <input type="checkbox"/> F. STATE CONTRACTOR _____ <input type="checkbox"/> G. OTHER _____ (Specify)					
05 CHIEF INSPECTOR <u>Carol S. Walsh</u>		06 TITLE <u>OSC</u>		07 ORGANIZATION <u>EPA</u>	
08 OTHER INSPECTORS <u>Freda Griffiths</u>		10 TITLE <u>TAT</u>		11 ORGANIZATION <u>WPS-TAT</u>	
				12 TELEPHONE NO. (404) 347-5500	
				()	
				()	
				()	
				()	
13 SITE REPRESENTATIVES INTERVIEWED		14 TITLE	15 ADDRESS		16 TELEPHONE NO.
					()
					()
					()
					()
					()
					()
					()
17 ACCESS GAINED BY (Check one) <input checked="" type="checkbox"/> PERMISSION <input type="checkbox"/> WARRANT		18 TIME OF INSPECTION <u>9-10-86 through</u> <u>9-12-86</u>		19 WEATHER CONDITIONS <u>Clear, hot</u>	
IV. INFORMATION AVAILABLE FROM					
01 CONTACT <u>Samuel Prince</u>		02 OF (Agency/Organization) <u>EPA - ERT</u>		03 TELEPHONE NO. (202) 344-6049	
04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM <u>Freda Griffiths</u>		05 AGENCY <u>EPA - TAT</u>	06 ORGANIZATION <u>WPS-TAT</u>	07 TELEPHONE NO. <u>404-347-5500</u>	08 DATE <u>9.15.86</u> MONTH DAY YEAR

IDENTIFICATION

01 STATE	02 SITE NUMBER
----------	----------------

01 PHYSICAL STATES (CHECK ALL THAT APPLY)

- ☐ A SOLID ☐ E SLURRY
☐ B POWDER, FINES ☒ F LIQUID
☒ C SLUDGE ☐ G GAS
☐ D OTHER _____ (Specify)

02 WASTE QUANTITY AT SITE

(Measures of waste quantities must be independent)

TONS

CUBIC YARDS

NO OF DRAINS

03 WASTE CHARACTERISTICS (Check all that apply)

- [illegible]

III. WASTE TYPE

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

V. FEEDSTOCKS (See Appendix for CAS Numbers)

VI. SOURCES OF INFORMATION (Cite specific references e.g. state fees sample analysis reports)



**POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT**
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE TX	02 SITE NUMBER 00000
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II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A GROUNDWATER CONTAMINATION 02 ☒ OBSERVED (DATE 10 Sept 86) ☐ POTENTIAL ☒ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

Groundwater monitoring wells on site OFF-SITE 270' inside boundary with no

01 ☒ B SURFACE WATER CONTAMINATION 02 ☐ OBSERVED (DATE 2 Feb 80) ☐ POTENTIAL ☒ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

*100 ft Springs in boundary with Diesel Fuel
See RA for sampling information*

01 ☐ C CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ D FIRE/EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ E DIRECT CONTACT 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ F CONTAMINATION OF SOIL 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: _____ (Acres) 04 NARRATIVE DESCRIPTION

See RA

01 ☐ G DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ H. WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ I. POPULATION EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION



**POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT**
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

L IDENTIFICATION

01 STATE TN	02 SITE NUMBER 60023
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II. HAZARDOUS CONDITIONS AND INCIDENTS *(Continued)*

01 ☐ J. DAMAGE TO FLORA 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ K. DAMAGE TO FAUNA 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION *(include name(s) of species)*

01 ☐ L. CONTAMINATION OF FOOD CHAIN 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
(Spills, Rupture, Standing Liquids, Leaking Drums)
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

01 ☐ N. DAMAGE TO OFFSITE PROPERTY 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

See PA Attached

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

See PA Attached

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

V. SOURCES OF INFORMATION *(Cite specific references e.g., State files, sample analysis, reports)*

*



**POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION**

I. IDENTIFICATION
01 STATE TN 02 SITE NUMBER EDDGE

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
<input type="checkbox"/> A NPDES				
<input type="checkbox"/> B UIC				
<input type="checkbox"/> C AM				
<input type="checkbox"/> D RCRA				
<input type="checkbox"/> E RCRA INTERIM STATUS				
<input type="checkbox"/> F SPCC PLAN				
<input type="checkbox"/> G STATE (Specify)				
<input type="checkbox"/> H LOCAL (Specify)				
<input type="checkbox"/> I OTHER (Specify)	<u>790 WIL</u>	<u>Temporary</u>	<u>23 Aug 77</u>	<u>Remedial - wastewater. Discharge</u>
<input type="checkbox"/> J NONE				

III. SITE DESCRIPTION

01 STORAGE/ DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT (Check all that apply)	05 OTHER
<input type="checkbox"/> A SURFACE IMPOUNDMENT	<u>unknown</u>		<input type="checkbox"/> A. INCINERATION	<input checked="" type="checkbox"/> A. BUILDINGS ON SITE
<input type="checkbox"/> B PILES			<input type="checkbox"/> B. UNDERGROUND INJECTION	<u>1</u>
<input type="checkbox"/> C DRUMS, ABOVE GROUND	<u>157</u>	<u>55 gal drums</u>	<input type="checkbox"/> C. CHEMICAL/PHYSICAL	
<input type="checkbox"/> D. TANK, ABOVE GROUND	<u>15</u>	<u>barrels</u>	<input type="checkbox"/> D. BIOLOGICAL	
<input type="checkbox"/> E. TANK, BELOW GROUND	<u>1</u>		<input checked="" type="checkbox"/> E. WASTE OIL PROCESSING	
<input type="checkbox"/> F. LANDFILL			<input type="checkbox"/> F. SOLVENT RECOVERY	
<input type="checkbox"/> G. LANDFARM			<input type="checkbox"/> G. OTHER RECYCLING/RECOVERY	
<input type="checkbox"/> H. OPEN DUMP			<input type="checkbox"/> H. OTHER (Specify)	
<input type="checkbox"/> I. OTHER (Specify)				06 AREA OF SITE <u>4.1 AC</u> (Acres)

07 COMMENTS

The facility is a closed waste oil processing facility. Storage tanks, etc.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)
☐ A ADEQUATE, SECURE ☒ B MODERATE ☐ C INADEQUATE, POOR ☐ D INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

All but one tank appear to be in good condition

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO

02 COMMENTS

Drums are easily accessible.

VI. SOURCES OF INFORMATION (Cite specific references e.g. state files, sample analysis reports)



**POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA**

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. DRINKING WATER SUPPLY**01 TYPE OF DRINKING SUPPLY**
(Check as applicable)

	SURFACE	WELL
COMMUNITY	A. <input checked="" type="checkbox"/>	B. <input type="checkbox"/>
NON-COMMUNITY	C. <input checked="" type="checkbox"/>	D. <input type="checkbox"/>

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A. <input type="checkbox"/>	B. <input type="checkbox"/>	C. <input type="checkbox"/>
D. <input type="checkbox"/>	E. <input type="checkbox"/>	F. <input type="checkbox"/>

03 DISTANCE TO SITE

A. <u>9 1/2</u>	(mi)
B. _____	(mi)

III. GROUNDWATER**01 GROUNDWATER USE IN VICINITY** (Check one)

<input type="checkbox"/> A. ONLY SOURCE FOR DRINKING	<input type="checkbox"/> B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available)	<input checked="" type="checkbox"/> C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available)	<input type="checkbox"/> D. NOT USED, UNUSEABLE
--	---	--	---

02 POPULATION SERVED BY GROUND WATER Unknown03 DISTANCE TO NEAREST DRINKING WATER WELL Unknown (mi)

04 DEPTH TO GROUNDWATER

(ft)

05 DIRECTION OF GROUNDWATER FLOW

06 DEPTH TO AQUIFER
OF CONCERN

(ft)

07 POTENTIAL YIELD
OF AQUIFER

(gpd)

08 SOLE SOURCE AQUIFER

☐ YES ☐ NO

09 DESCRIPTION OF WELLS (including usage, depth, and location relative to population and buildings)

10 RECHARGE AREA
☐ YES ☐ NO
COMMENTS
11 DISCHARGE AREA
☐ YES ☐ NO
COMMENTS
IV. SURFACE WATER**01 SURFACE WATER USE** (Check one)

<input type="checkbox"/> A. RESERVOIR, RECREATION DRINKING WATER SOURCE	<input type="checkbox"/> B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES	<input type="checkbox"/> C. COMMERCIAL, INDUSTRIAL	<input type="checkbox"/> D. NOT CURRENTLY USED
--	---	--	--

02 AFFECTED POTENTIALLY AFFECTED BODIES OF WATER

NAME:

AFFECTED

DISTANCE TO SITE

_____	<input type="checkbox"/>	_____ (mi)
_____	<input type="checkbox"/>	_____ (mi)
_____	<input type="checkbox"/>	_____ (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION**01 TOTAL POPULATION WITHIN**

ONE (1) MILE OF SITE

A. _____
NO. OF PERSONS

TWO (2) MILES OF SITE

B. _____
NO. OF PERSONS

THREE (3) MILES OF SITE

C. _____
NO. OF PERSONS**02 DISTANCE TO NEAREST POPULATION**

_____ (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE**04 DISTANCE TO NEAREST OFF SITE BUILDING**

_____ (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site e.g., rural, village, densely populated urban area)



**POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION**

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL			
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS

IV. PHOTOGRAPHS AND MAPS

01 TYPE <input type="checkbox"/> GROUND <input type="checkbox"/> AERIAL	02 IN CUSTODY OF _____ <small>(Name of organization or individual)</small>
03 MAPS <input type="checkbox"/> YES <input type="checkbox"/> NO	04 LOCATION OF MAPS _____

V. OTHER FIELD DATA COLLECTED (Provide narrative description)**VI. SOURCES OF INFORMATION** (Cite specific references e.g. state files, sample analysis reports)

*



**POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION**

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. CURRENT OPERATOR *(Provide if different from owner)***OPERATOR'S PARENT COMPANY** *(If applicable)*

01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER					

III. PREVIOUS OPERATOR(S) *(List most recent first; provide only if different from owner)***PREVIOUS OPERATORS' PARENT COMPANIES** *(If applicable)*

01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					

01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					

01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					

IV. SOURCES OF INFORMATION *(Cite specific references, e.g., State files, sample analysis reports)*



**POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION**

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. ON-SITE GENERATOR

01 NAME		02 D+B NUMBER		
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE		

III. OFF-SITE GENERATOR(S)

01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		05 CITY	06 STATE	07 ZIP CODE	

01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		05 CITY	06 STATE	07 ZIP CODE	

IV. TRANSPORTER(S)

01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		05 CITY	06 STATE	07 ZIP CODE	

01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		05 CITY	06 STATE	07 ZIP CODE	

V. SOURCES OF INFORMATION (See specific references e.g., state files, sample analysis reports)



**POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES**

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. PAST RESPONSE ACTIVITIES

01 <input type="checkbox"/> A. WATER SUPPLY CLOSED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> D. SPILLED MATERIAL REMOVED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> F. WASTE REPACKAGED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> H. ON SITE BURIAL 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> L. ENCAPSULATION 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> N. CUTOFF WALLS 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> O. EMERGENCY DIKING/SURFACE WATER DIVERSION 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION	02 DATE _____	03 AGENCY _____



**POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES**

I. IDENTIFICATION
01 STATE 02 SITE NUMBER

II. PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ S. CAPPING/COVERING
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ T. BULK TANKAGE REPAIRED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ U. GROUT CURTAIN CONSTRUCTED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ V. BOTTOM SEALED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ W. GAS CONTROL
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ X. FIRE CONTROL
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ Y. LEACHATE TREATMENT
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ Z. AREA EVACUATED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ 1. ACCESS TO SITE RESTRICTED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ 2. POPULATION RELOCATED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ 3. OTHER REMEDIAL ACTIVITIES
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis reports)



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis reports)

TABLE 1
SAAD SITE
Tank Dimensions and Contents

Tank	TANK	CONTENTS		TANK	CONTENTS		
	Diameter	Height	Depth	Vol/ft ⁽³⁾⁺	Vol/gal ^(x)	Vol/ft ⁽³⁾	Vol/gal
1	10'	27.5'	4.4'	2160	16,157	346	2,588
2	10'	31.2'	1.5'	2450	18,326	118	883
4	9.5'	29.3'	1.6'	2077	15,536	113	845
6	10'	?	1.2'*	--		94*	703
11	14'	24'	1.25'	3695	27,639	192	1,436
12	10'	24'	5.25'	1885	14,100	412	3,082

$$+ V = \frac{\pi}{4} r^2 h$$

$$\times \text{Vol, gal} = 7.48 \times \text{Vol, ft}^3$$

* Volume of liquid only, sludge not included, tank volume excluding sludge
Volume is 1681 ft³ or 12,572 gal.

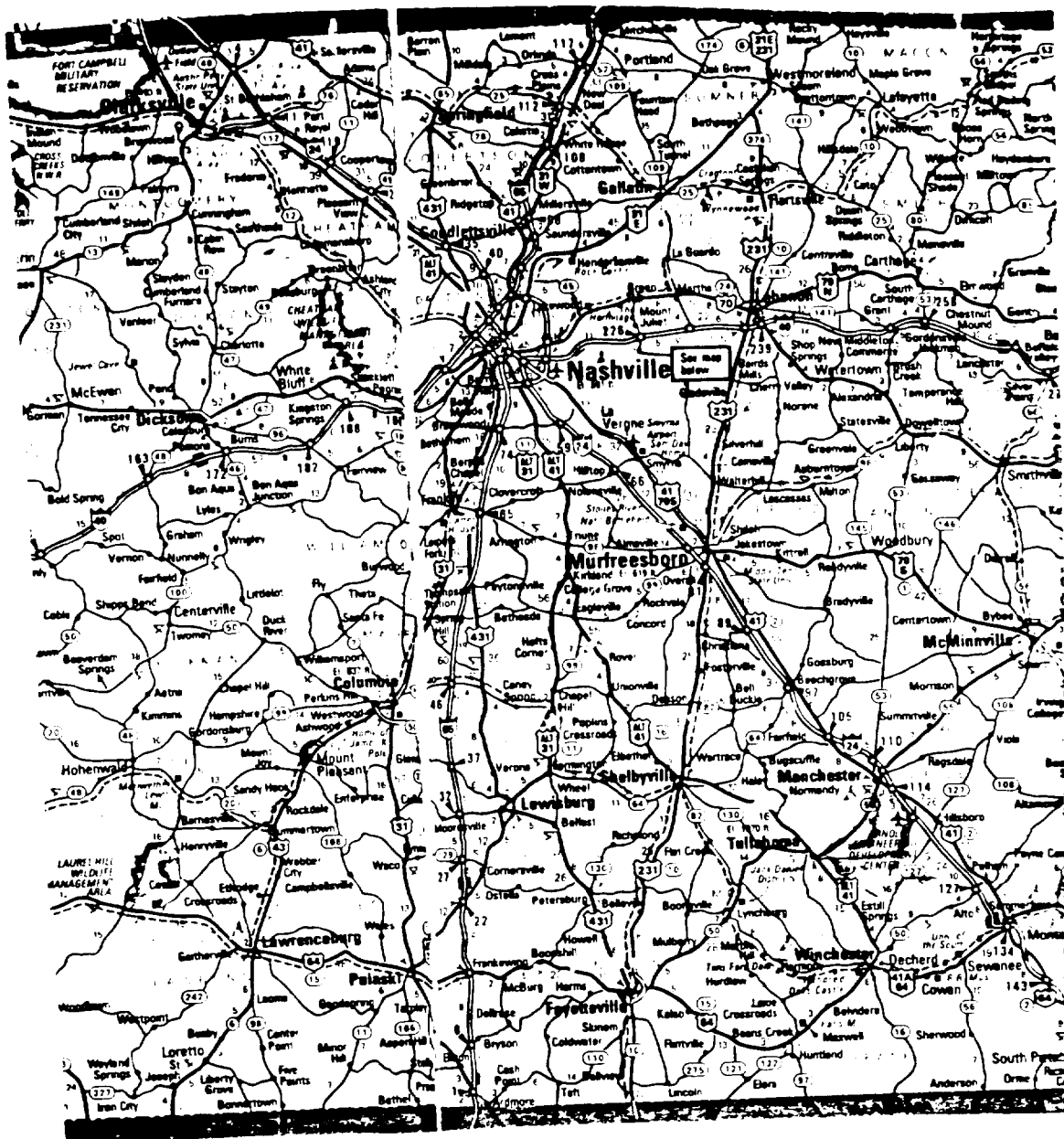


Figure 1
State Location Map

ACTIVITY
DESCRIPTION

PA/SI

SITE The Saad Site

TDD NO. 04-8610-23 / 04-8609-02

DATE 10-30-86 BY EG

WESTERN
COMMUNICATIONS

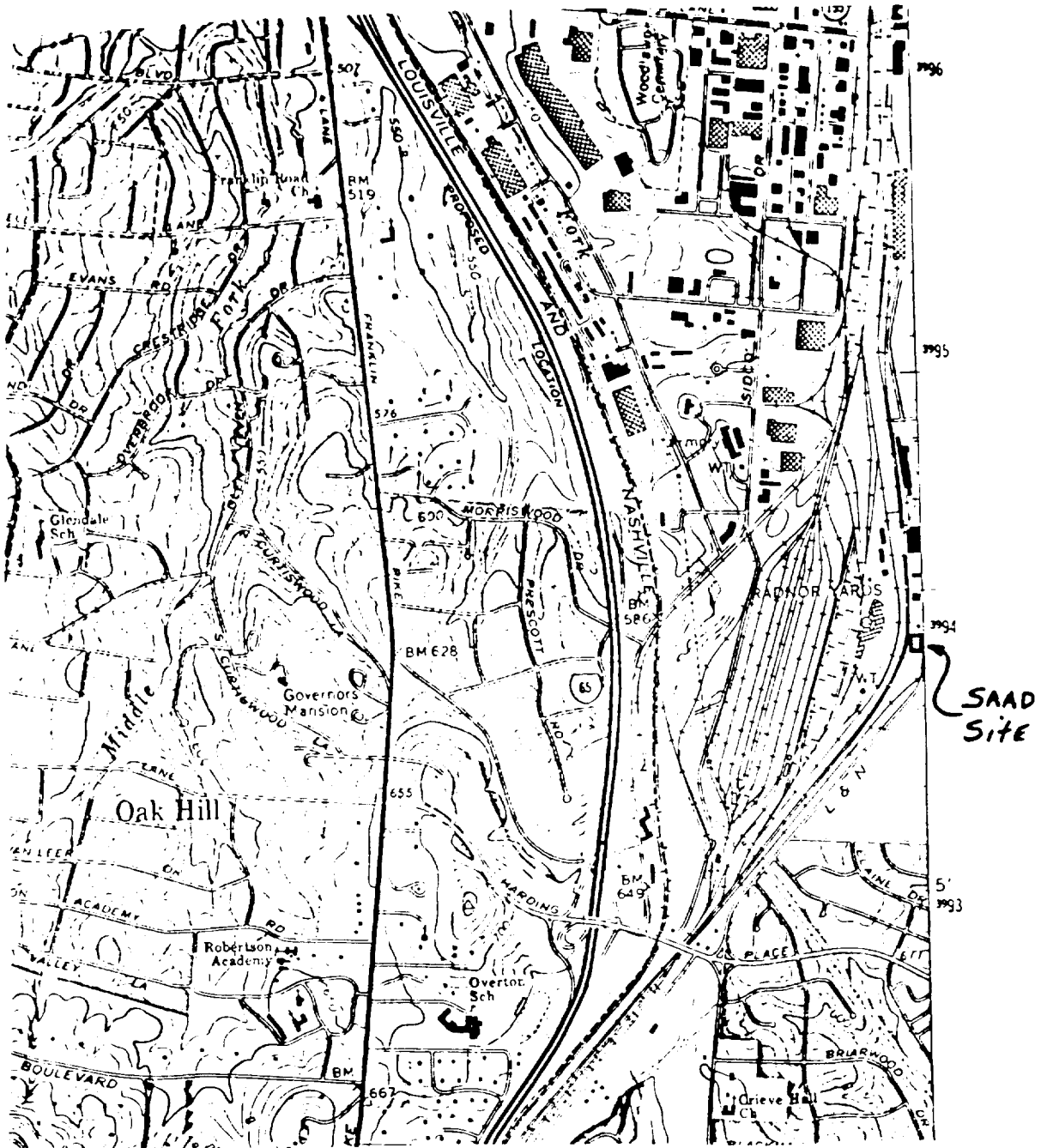


Figure 2
Site Location Map

ACTIVITY
DESCRIPTION

PA/SI

SITE The Saad Site

TDD NO. 04-8610-23 / 04-8609-02

DATE 10-30-86 BY FG

WESTON
ENGINEERING & ARCHITECTURE

Other Business

Cinder Block Wall

Tank Farm

Building

Tanker Truck

Tree Line

Well

Gravel Parking Area

Brick Yard

Figure 3
Site Diagram

ACTIVITY
DESCRIPTION

~~Saad Site Sampling~~
PA/SI

SITE Saad Site, Nashville, TN

TDD NO. 04-8609-02

DATE September, 1986 BY EG

WESTON
CONSULTANTS

APPENDIX 4

Hazard Ranking System Worksheets and Explanations

Facility Name: John P. Saad/ L&N

Location: Trousdale Blvd., Nashville, Tennessee

EPA Region: IV

Person(s) in Charge of the Facility: J. P. Saad Oil Company and the
Louisville and Nashville Railroad

Name of Reviewer: Jim Aton Date: 7-29-82

General Description of the Facility:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

A waste oil recycler which dumped wastes into a sinkhole on site and a
railroad maintenance and switching yard with spills. The site is located
in south central Nashville, south of the Cumberland River. Waste oil,
solvent and heavy metal have been identified. Need additional sampling in
Mills Creek. A park is planned along the spring which drains the site
resulting in a direct contact problem.

Scores: $S_M = 21.13$ ($S_{gw} = 11.97$ $S_{sw} = 34.55$ $S_a = 0$)

$S_{FE} =$ Not scored

$S_{DC} = 62.50$

GROUND WATER ROUTE WORK SHEET						
Rating Factor	Assigned Value (Circle One)		Multi- plier	Score	Max. Score	Ref. (Section)
1 Observed Release	0	45	1	0	45	3.1
If observed release is given a score of 45, proceed to line 4 . If observed release is given a score of 0, proceed to line 2 .						
2 Route Characteristics						3.2
Depth to Aquifer of Concern	0	① 2 3	2	2	6	
Net Precipitation	0	1 ② 3	1	2	3	
Permeability of the Unsaturated Zone	0	① 2 3	1	1	3	
Physical State	0	1 2 ③	1	3	3	
Total Route Characteristics Score				8	15	
3 Containment	0	1 2 ③	1	3	3	3.3
4 Waste Characteristics						3.4
Toxicity/Persistence	0	3 6 9 12 15 ⑬	1	15	18	
Hazardous Waste Quantity	0	1 2 3 4 5 6 7 ⑧	1	8	8	
Total Waste Characteristics Score				26	26	
5 Targets						3.5
Ground Water Use	0	① 2 3	3	3	9	
Distance to Nearest Well/Population Served	0	4 6 ⑧ 10	1	8	40	
Total Targets Score				11	49	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5				57,330		
7 Divide line 6 by 57,330 and multiply by 100				S _{gw} = 11.97		

SURFACE WATER ROUTE WORK SHEET						
Rating Factor	Assigned Value (Circle One)		Multi- plier	Score	Max. Score	Rel. (Section)
1 Observed Release	0	45	1	45	45	4.1
If observed release is given a value of 45, proceed to line 4 . If observed release is given a value of 0, proceed to line 2 .						
2 Route Characteristics						4.2
Facility Slope and Intervening Terrain	0	1 2 3	1		3	
1-yr. 24-hr. Rainfall	0	1 2 3	1		3	
Distance to Nearest Surface Water	0	1 2 3	2		6	
Physical State	0	1 2 3	1		3	
Total Route Characteristics Score				X	15	
3 Containment	0	1 2 3	1	X	3	4.3
4 Waste Characteristics						4.4
Toxicity/Persistence	0	3 6 9 12 15 18	1	18	18	
Hazardous Waste Quantity	0	1 2 3 4 5 6 7 8	1	8	8	
Total Waste Characteristics Score				26	26	
5 Targets						4.5
Surface Water Use	0	1 2 3	3	9	9	
Distance to a Sensitive Environment	0	1 2 3	2	6	6	
Population Served/Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40		1	40	40	
Total Targets Score				19	55	
6 If line 1 is 45, multiply 1 x 4 x 5 = 225 If line 1 is 0, multiply 2 x 3 x 4 x 5				22230	64.350	
7 Divide line 6 by 64.350 and multiply by 100				S _{sw} = 34.55		

AIR ROUTE WORK SHEET						
Rating Factor	Assigned Value (Circle One)	Multi- plier	Score	Max. Score	Ref. (Section)	
[1] Observed Release	0 45	1	0	45	5.1	
Date and Location:						
Sampling Protocol:						
If line [1] is 0, the S = 0. Enter on line [5] . If line [1] is 45, then proceed to line [2] .						
[2] Waste Characteristics					5.2	
Reactivity and Incompatibility	0 1 2 3	1		3		
Toxicity	0 1 2 3	3		9		
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8		
Total Waste Characteristics Score				20		
[3] Targets					5.2	
Population Within 4-Mile Radius	{ 0 9 12 15 18 21 24 27 30	1		30		
Distance to Sensitive Environment	0 1 2 3	2		6		
Land Use	0 1 2 3	1		3		
Total Targets Score				39		
[4] Multiply [1] x [2] x [3]			0	35,100		
[5] Divide line [4] by 35,100 and multiply by 100 $S_a =$ 0						

	s	s ²
Groundwater Route Score (S _{gw})	11.97	143.35
Surface Water Route Score (S _{sw})	34.55	1193.70
Air Route Score (S _a)	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		1337.05
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		36.56
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73$		S _M = 21.13

WORKSHEET FOR COMPUTING S_M

FIRE AND EXPLOSION WORK SHEET											
Rating Factor	Assigned Value (Circle One)				Multi- plier	Score	Max. Score	Ref. (Section)			
1 Containment	1	3			1		3	7.1			
2 Waste Characteristics								7.2			
Direct Evidence	0	3			1		3				
Ignitability	0	1	2	3	1		3				
Reactivity	0	1	2	3	1		3				
Incompatibility	0	1	2	3	1		3				
Hazardous Waste Quantity	0	1	2	3	4	5	6	7	8	1	8
Total Waste Characteristics Score							20				
3 Targets								7.3			
Distance to Nearest Population	0	1	2	3	4	5	1	5			
Distance to Nearest Building	0	1	2	3			1	3			
Distance to Sensitive Environment	0	1	2	3			1	3			
Land Use	0	1	2	3			1	3			
Population Within 2-Mile Radius	0	1	2	3	4	5	1	5			
Buildings Within 2-Mile Radius	0	1	2	3	4	5	1	5			
Total Targets Score							24				
4 Multiply 1 x 2 x 3							1,440				
5 Divide line 4 by 1,440 and multiply by 100						SFE = <i>not ranked</i>					

DIRECT CONTACT WORK SHEET						
Rating Factor	Assigned Value (Circle One)		Multi- plier	Score	Max. Score	Ref. (Section)
1 Observed Incident	0	45	1	0	45	8.1
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2						
2 Accessibility	0	1 2 3	1	3	3	8.2
3 Containment	0	15	1	15	15	8.3
4 Waste Characteristics Toxicity	0	1 2 3	5	15	15	8.4
5 Targets						8.5
Population Within a 1-Mile Radius	0	1 2 3 4 5	4	20	20	
Distance to a Critical Habitat	0	1 2 3	4		12	
Total Targets Score				20	32	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5				15500	21,600	
7 Divide line 6 by 21,600 and multiply by 100				SDC = 62.50		

See attached sheet.

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

INSTRUCTIONS: The purpose of these records is to provide a convenient way to prepare an auditable record of the data and documentation used to apply the Hazard Ranking System to a given facility. As briefly as possible summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference that will make the document used for a given data point easier to find. Include the location of the document and consider appending a copy of the relevant page(s) for ease in review.

FACILITY NAME: Saad Oil Company/ L & N Railroad

LOCATION: Trousdale Blvd., Nashville, Tennessee

GROUND WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected (5 maximum):

C₂ Alkylbiphenyl and C₃ and C₄ alkyl naphthalene found in both Croft Farm spring and L&N Railroad yard oil separator. Chloroform (625 ppb) found in spring at Croft Farm and in waste oil pit at J. P. Saad Oil Company. Also found in spring Carbontetrachloride, Trichloroethane, Chlorobenzene. Found at both spring and Saad Oil was benzene.

Rationale for attributing the contaminants to the facility:

Same compounds found in both Saad waste oil pit and spring and railroad yard stormwater and spring. Spring is downgradient for both surface water and groundwater routes from Saad Oil and L&N Railroad yard. Contamination also entering spring from an industrial area north of Croft Farm.

* * *

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifer(s) of concern:

The aquifer of concern is the Carter and Lebanon limestones. The Bigby-Cannon Limestone is the surficial formation and is the formation in which the sinkhole used by Saad Oil developed. The Hermitage Formation is a confining layer between the Bigby-Cannon and the Carter limestones.

Depth(s) from the ground surface to the highest seasonal level of the saturated zone [water table(s)] of the aquifer of concern:

The ground surface is at elevation 600 feet MSL. Croft spring outcrops at top of Hermitage formation elevation 550 feet. Hermitage is about 60 feet thick. Therefore, depth from ground surface to top of Carter limestone is (600-550) + 60 = 110 feet.

Depth from the ground surface to the lowest point of waste disposal/storage:

Sink is over 20 feet deep. Based on old topo maps.

Ref: Geologic Map and Mineral Resources Summary of the Oak Hill Quadrangle, Tennessee, by Charles W. Wilson, Jr. and Robert Miller Tennessee Division of Geology, 1973.

110 - 20 = 90 feet HRS Value = 1

Net Precipitation

Mean annual or seasonal precipitation (list months for seasonal):

48 inches per year

Ref: Climatic Atlas of U.S., 1979.

Mean annual lake or seasonal evaporation (list months for seasonal):

37 inches per year

Ref: Climatic Atlas of U.S., 1979.

Net precipitation (subtract the above figures):

11 inches HRS Value = 2

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

Hermitage formation acts as a confining layer over the Carter limestone and is relatively impervious containing clays and shales.

Ref: Groundwater in the Central Basin of Tennessee by Roy Newcomb, Jr., State of Tennessee, Report of Conservation, Div. of Geology, 1958.

Permeability associated with soil type:

HRS Value of 1 based on reported rock types

Physical State

Physical state of substances at time of disposal (or at present time for generated gases):

Liquid HRS Value of 3

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

The wastes have been dumped into a sinkhole with no liner.

Method with highest score:

Surface impoundment; a drainage feature, no diversion, no liner,
HRS Value of 3

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

Chloroform, Carbon Tetrachloride, Trichloroethane, Chlorobenzene and Benzene

Compound with highest score:

Chloroform Toxicity = 3 Persistence = 3
 HRS Value = 18

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

8 million gallons. Inspection report by Gary Clemons 4-8-82

Basis of estimating and/or computing waste quantity:

Tennessee Dept of Solid Waste Management files.

* * *

5 TARGETS

Ground Water Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:

Irrigation
HRS Value of 1

Distance to Nearest Well

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply:

A. S. Lankford, 300 Wheeler St., 48 foot well, garden irrigation, well top elevation 550 feet msl. Bottom of well 500 feet msl. Estimated to be in the Carter Limestone.

L. G. Newman, 522 Paragon Mills, 98 foot well, pump intake at 48 foot, lawn irrigation well top elevation about 500 ft. msl. Bottom of well 400 ft. msl. Bottom is estimated to be in the Lebanon Limestone.

Distance to above well or building:

2500 feet to Lankford well HRS Value = 3
3000 feet to Newman well

Population Served by Ground Water Wells Within a 3-Mile Radius

Identified water-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and populations served by each:

None

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius, and conversion to population (1.5 people per acre):

A. S. Lankford's garden 1 acre (assumed)

Total population served by ground water within a 3-mile radius:

Using agriculture conversion
Population = 1.5 people
HRS Value = 1

SURFACE WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected in surface water at the facility or downhill from it
(5 maximum):

Yes; at spring, see groundwater for description

Rationale for attributing the contaminants to the facility:

see groundwater

* * *

2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

Name/description of nearest downslope surface water:

Average slope of terrain between facility and above-cited surface water body
in percent:

Is the facility located either totally or partially in surface water?

Is the facility completely surrounded by areas of higher elevation?

N/A

1-Year 24-Hour Rainfall in Inches

Distance to Nearest Downslope Surface Water

Physical State of Waste

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

N/A

Method with highest score:

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated

Chloroform see groundwater

Compound with highest score:

Chloroform Toxicity = 3 Persistence = 3
 HRS Value = 18

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

8 million gallon based on Tennessee File as reported in groundwater section.

Basis of estimating and/or computing waste quantity:

Tennessee Files
HRS Value = 8

* * *

5 TARGETS

Surface Water Use

Use(s) of surface water within 3 miles downstream of the hazardous substance:

Croft spring was used for drinking water by Croft family. Spring will be used for recreation in the future. Cumberland River is sole source of Nashville's drinking water. Main treatment plant is 1/2 mile downstream of Mills Creek. Saad site is 9.3 miles up Mills Creek from Cumberland River. Water is used for drinking. HRS Value = 3.

Is there tidal influence?

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

no sensitive environments identified

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less:

Population Served by Surface Water

Location(s) of water-supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static water bodies) downstream of the hazardous substance and population served by each intake:

Only the Croft farm used the resource.

Population is therefore only one or two families.

Population estimate 8 people. These people are at the site therefore distance is less than 2000 feet.

HRS Value 10 from matrix.

current population is two people.

Computation of land area irrigated by above-cited intake(s) and conversion to population (1.5 people per acre):

No irrigation

Total population served:

Name/description of nearest of above water bodies:

Distance to above-cited intakes, measured in stream miles.

AIR ROUTE

1 OBSERVED RELEASE

Contaminants detected:

No release

Date and location of detection of contaminants

Methods used to detect the contaminants:

Rationale for attributing the contaminants to the site:

* * *

2 WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

Most incompatible pair of compounds:

Toxicity

Most toxic compound:

Hazardous Waste Quantity

Total quantity of hazardous waste:

Basis of estimating and/or computing waste quantity:

* * *

3 TARGETS

Population Within 4-Mile Radius

Circle radius used, give population, and indicate how determined:

0 to 4 mi 0 to 1 mi 0 to 1/2 mi 0 to 1/4 mi

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

Distance to critical habitat of an endangered species, if 1 mile or less:

Land Use

Distance to commercial/industrial area, if 1 mile or less:

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

Distance to residential area, if 2 miles or less:

Distance to agricultural land in production within past 5 years, if 1 mile or less:

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?

DIRECT CONTACT ROUTE

1 OBSERVED INCIDENT

Are incidents of human or animal injury, illness or death reported:

None HRS Value = 0

2 ACCESSIBILITY

Accessibility of humans and animals:

Contaminated spring flow through a park which is under construction and access is not currently restricted.

HRS Value of 3

3 CONTAINMENT

Are the wastes properly contained:

Wastes were dumped into a sinkhole and covered with two feet of gravel and is thus not properly protected. HRS Value = 15

4 WASTE CHARACTERISTICS

What is the compound of concern and its toxicity:

Chloroform Toxicity of 3
HRS Value = 3

5 TARGETS

What is the population within one mile radius of the site:

20,368 people estimated below

HRS Value = 5

How was population determined:

Area within 1 mile radius; $(5280 \text{ ft})^2 \times \pi + 43560 \text{ ft}^2/\text{acre} = 2010 \text{ acres}$
Assumed housing density 4 housing units per acre.
 $2010 \text{ acres} \times 4 = 8040 \times 3.8 \text{ persons/house} = 30,552 \text{ people}$
A railroad switching yard takes up about 1/3 of the 1 mile circle around the site therefore the population is only 2/3 of the complete circle estimated population.

Distance to a critical habitat and name of habitat:

None

HRS Value = 0

APPENDIX 5

ERT Analytical Results



**POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION**

I. IDENTIFICATION

D1 STATE D2 SITE NUMBER

II. CURRENT OWNER(S)					PARENT COMPANY (If applicable)				
D1 NAME			D2 D+B NUMBER		D8 NAME			D9 D+B NUMBER	
D3 STREET ADDRESS (P.O. Box, RFD #, etc.)			D4 SIC CODE		D10 STREET ADDRESS (P.O. Box, RFD #, etc.)			D11 SIC CODE	
D5 CITY		D6 STATE	D7 ZIP CODE		D12 CITY		D13 STATE	D14 ZIP CODE	
D1 NAME			D2 D+B NUMBER		D8 NAME			D9 D+B NUMBER	
D3 STREET ADDRESS (P.O. Box, RFD #, etc.)			D4 SIC CODE		D10 STREET ADDRESS (P.O. Box, RFD #, etc.)			D11 SIC CODE	
D5 CITY		D6 STATE	D7 ZIP CODE		D12 CITY		D13 STATE	D14 ZIP CODE	
D1 NAME			D2 D+B NUMBER		D8 NAME			D9 D+B NUMBER	
D3 STREET ADDRESS (P.O. Box, RFD #, etc.)			D4 SIC CODE		D10 STREET ADDRESS (P.O. Box, RFD #, etc.)			D11 SIC CODE	
D5 CITY		D6 STATE	D7 ZIP CODE		D12 CITY		D13 STATE	D14 ZIP CODE	
D1 NAME			D2 D+B NUMBER		D8 NAME			D9 D+B NUMBER	
D3 STREET ADDRESS (P.O. Box, RFD #, etc.)			D4 SIC CODE		D10 STREET ADDRESS (P.O. Box, RFD #, etc.)			D11 SIC CODE	
D5 CITY		D6 STATE	D7 ZIP CODE		D12 CITY		D13 STATE	D14 ZIP CODE	
D1 NAME			D2 D+B NUMBER		D8 NAME			D9 D+B NUMBER	
D3 STREET ADDRESS (P.O. Box, RFD #, etc.)			D4 SIC CODE		D10 STREET ADDRESS (P.O. Box, RFD #, etc.)			D11 SIC CODE	
D5 CITY		D6 STATE	D7 ZIP CODE		D12 CITY		D13 STATE	D14 ZIP CODE	
III. PREVIOUS OWNER(S) (List most recent first)					IV. REALTY OWNER(S) (If applicable, list most recent first)				
D1 NAME			D2 D+B NUMBER		D1 NAME			D2 D+B NUMBER	
D3 STREET ADDRESS (P.O. Box, RFD #, etc.)			D4 SIC CODE		D3 STREET ADDRESS (P.O. Box, RFD #, etc.)			D4 SIC CODE	
D5 CITY		D6 STATE	D7 ZIP CODE		D5 CITY		D6 STATE	D7 ZIP CODE	
D1 NAME			D2 D+B NUMBER		D1 NAME			D2 D+B NUMBER	
D3 STREET ADDRESS (P.O. Box, RFD #, etc.)			D4 SIC CODE		D3 STREET ADDRESS (P.O. Box, RFD #, etc.)			D4 SIC CODE	
D5 CITY		D6 STATE	D7 ZIP CODE		D5 CITY		D6 STATE	D7 ZIP CODE	
D1 NAME			D2 D+B NUMBER		D1 NAME			D2 D+B NUMBER	
D3 STREET ADDRESS (P.O. Box, RFD #, etc.)			D4 SIC CODE		D3 STREET ADDRESS (P.O. Box, RFD #, etc.)			D4 SIC CODE	
D5 CITY		D6 STATE	D7 ZIP CODE		D5 CITY		D6 STATE	D7 ZIP CODE	

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, bottom analysis reports)

INTRODUCTION

On September 13, 1986, 10 water samples and one oil sample from the Saad Waste Oil Site in Nashville, Tennessee were received by Enviresponse, Inc. They were submitted to Clayton Environmental Consultants for priority pollutant volatile organics, PCB/Pesticides, and Base Neutral/Acid Extractables analyses plus chlorides, bromides, and 15 metals. In addition, oil fingerprinting analyses were performed.

7341 - CSX well
7334 - Saad Well
7342 - CSX Lagoon

PROCEDURES

All priority pollutant organics and metals analyses were conducted in accordance with Contract Lab Program (CLP) protocols. Method blank results for all priority pollutant parameters were below the required limit of detection.

Volatile Organics Analysis: All water samples were analyzed by purge and trap-GC/MS. The oil sample was dissolved in methanol and a portion of the methanol was injected into water for purge and trap-GC/MS analysis.

PCB/Pesticides Analysis: Water samples were serially extracted with methylene chloride, concentrated to a final volume of 1 ml, and solvent exchanged with iso-octane. The oil sample was dissolved in iso-octane. All samples were analyzed by electron capture detector-gas chromatography (ECD-GC). GC/MS confirmation was not performed for sample parameters which were undetected or below the method detection limit for GC/MS. Confirmation of PCBs in sample 7334, oil and water, were performed using capillary column ECD-GC.

Base Neutral/Acid Extractables: Water samples were serially extracted with methylene chloride after treatment with NaOH to raise the pH to 12. The water was then acidified to a pH less than 2 and serially extracted with methylene chloride. The extracts were combined and concentrated to a final volume of 1 ml. The oil sample was diluted with methylene chloride. Sample extracts were then analyzed by GC/MS.

Metals: The water samples were analyzed according to EPA Document 600-4-79-020, Methods for the Examination of Water and Wastewater. The oil sample was analyzed according to EPA Document SW 846, Method 3050, Test Methods for Evaluating Solid Waste.

Chlorides/Bromides: The analysis of the water samples was performed according to EPA Document 600-4-790-20, Method 300.1, Methods for the Examination of Water and Wastewater.

Oil Fingerprinting: The water samples were extracted with Freon prior to flame ionization detector-gas chromatography (FID-GC) analysis. The oil sample was diluted using Freon. No. 2 diesel fuel was diluted with Freon to various concentrations and analyzed by FID-GC. The chromatograms of the oil and water extracts were analyzed and compared to the diesel fuel chromatograms.

Results and detection limits for the above described analyses are presented in Tables 1-11.

Table 1. Detection Limits for Volatile Organics Analysis

Parameter	Detection Limit (water) ug/l	Detection Limit (oil) ug/g
Chloromethane	10	50
Bromomethane	10	50
Vinyl Chloride	10	50
Chloroethane	10	50
Methylene Chloride	5	25
Trichlorofluoromethane	1	25
1,1-Dichloroethylene	5	25
1,1-Dichloroethane	5	25
Trans-1,2-Dichloroethylene	5	25
Chloroform	1	25
1,2-Dichloroethane	5	25
1,1,1-Trichloroethane	5	25
Carbon Tetrachloride	5	25
Bromodichloromethane	5	25
1,2-Dichloropropane	7	35
Trans-1,3-Dichloropropylene	5	25
Trichloroethylene	5	25
Dibromochloromethane	5	25
1,1,2-Trichloroethane	5	25
Benzene	5	25
cis-1,3-Dichloropropene	5	25
2-Chloroethylvinyl ether	10	50
Bromoform	5	25
Tetrachloroethylene	5	25
Toluene	1	25
Chlorobenzene	5	25
Ethylbenzene	5	25
1,3-Dichlorobenzene	15	75
1,4-Dichlorobenzene	15	75
1,2-Dichlorobenzene	7	35

Table 2. Results of Volatile Organics Analysis

Sample No.	Parameter	Concentration
<u>Water</u>		(reported as ug/l)
7331	Trichloroethylene	<5
7332	None Detected	---
7333	None Detected	---
7334	Vinyl chloride	9800
	Methylene chloride	5500
	1,1-Dichloroethane	1700
	Trans-,2-dichloroethylene	52000
	1,1,1-Trichloroethane	6300
	Trichloroethylene	30000
	Tetrachloroethylene	9600
	Toluene	4600
	Ethyl benzene	500
7335	Chloroform	<1
	Toluene	<1
7341	Chloroethane	130
	Methylene chloride	6.0
	1,1-Dichloroethane	8.0
7342	None Detected	---
7344	Trans-1,2-dichloroethylene	<5
	Tetrachloroethylene	6.0
7345	Trans-1,2-dichloroethylene	<5
	Trichloroethylene	7.0
	Tetrachloroethylene	6.0
7346	Trans-1,2-dichloroethylene	<5
	Toluene	<5
7353	None Detected	---

Table 2. Results of Volatile Organics Analysis (Cont'd)

Sample No.	Parameter	Concentration
<u>Oil</u>		(reported as ug/g)
7334	Vinyl chloride	290.
	Methylene chloride	670.
	1,1-Dichloroethane	130
	Trans-1,2-dichloroethylene	4200.
	1,1,1-Trichloroethane	1700.
	Trichloroethylene	4800
	Tetrachloroethylene	4800.
	Toluene	1300.
	Ethyl benzene	230.

Table 3. Detection Limits for PCB/Pesticides Analysis

Parameter	Detection Limit (water) ug/l	Detection Limit (oil) ug/kg
α BHC	.05	78
β BHC	.05	78
γ BHC	.05	78
Δ BHC (Lindane)	.05	78
Heptachlor	.05	78
Aldrin	.05	78
Heptachlor Epoxide	.05	78
Endosulfan I	.05	78
Dieldrin	.10	160
4,4'-DDE	.10	160
Endrin	.10	160
Endosulfan II	.10	160
4,4'-DDD	.10	160
Endosulfan Sulfate	.10	160
4,4'-DDT	.10	160
Methoxychlor	.50	780
Endrin Ketone	.10	160
Chlordane	.50	780
Toxaphene	1.0	1600
Aroclor 1016	.50	780
Aroclor 1221	.50	780
Aroclor 1232	.50	780
Aroclor 1242	.5	780
Aroclor 1248	.5	780
Aroclor 1254	1.0	1600
Aroclor 1260	1.0	1600

Table 4. Results of PCB/Pesticides Analysis

Sample No.	Parameter	Concentration
<u>Water</u>		(reported as ug/l)
7332	None Detected	---
7333	None Detected	---
7334	Aroclor 1242 Aroclor 1260	130. 74
7335	None Detected	---
7341	None Detected	---
7342	None Detected	---
7344	None Detected	---
7346	None Detected	---
7353	None Detected	---
<u>Oil</u>		(reported as ug/g)
7334	Aroclor 1242 Aroclor 1260	36.0 17.0

Table 5. Detection Limits for Base Neutral/Acid Extractables Analysis

Parameter	Detection Limit (water) ug/l	Detection Limit (oil) ug/kg
N-nitrosodimethylamine	11	120
Phenol	10	110
bis(2-chloroethyl)ether	10	110
2-Chlorophenol	10	110
1,3-Dichlorobenzene	10	110
1,4-Dichlorobenzene	10	110
1,2-Dichlorobenzene	10	110
bis(2-Chloroisopropyl)ether	10	110
N-nitroso-di-n-propylamine	10	110
Hexachloroethane	10	110
Nitrobenzene	10	110
Isophorone	10	110
2-Nitrophenol	10	110
2,4-Dimethylphenol	10	150
bis(2-Chloroethoxy)methane	10	110
2,4-Dichlorophenol	10	110
1,2,4-Trichlorobenzene	10	110
Naphthalene	10	150
Hexachlorobutadiene	10	110
2,4,6-Trichlorophenol	10	110
2-Chloronaphthalene	10	110
Dimethyl phthalate	10	110
Acenaphthylene	10	110
Acenaphthene	10	110
2,4-Dinitrophenol	50	560
4-Nitrophenol	50	560
2,4-Dinitrotoluene	10	110
2,6-Dinitrotoluene	10	110
Diethylphthalate	10	110
4-Chlorophenyl-phenylether	10	110
Fluorene	10	110
4,6-Dinitro-2-methylphenol	50	560
N-Nitrosodiphenylamine	10	110
4-Bromophenyl-phenylether	10	110
Hexachlorobenzene	10	110
Pentachlorophenol	50	560
Phenanthrene	10	110
Anthracene	10	110
Di-n-butylphthalate	10	110
Fluoranthene	10	110
Benzidene	160	1800
Pyrene	10	110
Butylbenzylphthalate	10	110
3,3'-Dichlorobenzidene	28	310

Table 5. Detection Limits for Base Neutral/Acid Extractables
Analysis (Cont'd)

Parameter	Detection Limit (water) ug/l	Detection Limit (oil) ug/kg
Benzo(a)anthracene	10	110.
bis(2-ethylhexyl)phthalate	10	110
Chrysene	10	110.
Di-n-octylphthalate	10	110.
Benzo(b)fluoranthene	11	120.
Benzo(k)fluoranthene	10	110.
Benzo(a)pyrene	10	110.
Indeno(1,2,3-cd)pyrene	13	150.
Dibenzo(a,h)anthracene	16	180.
Benzo(g,h,i)perylene	17	190

Table 6. Results for Base Neutral/Acid Extractables Analysis

Sample No.	Parameter	Concentration
<u>Waters</u>		reported as ug/l
7332	Diethylphthalate*,**	<10.
	bis(2-ethylhexyl)phthalate	78.
7333	Diethylphthalate*,**	<10.
	Di-n-butylphthalate*,**	<10.
7334	Phenol	1900.
	2,4-Dimethylphenol	4900.
	Napthalene**	150.
	4-Chloro-3-methylphenol**	160.
	bis(2-ethyl hexyl)phthalate	180.
7335	None Detected	--
7341	Diethylphthalate*,**	<10.
	bis(2-ethylhexyl)phthalate	22.
	Di-n-octylphthalate**	<10
7342	Diethylphthalate	<10
7344	Diethylphthalate*,**	<10
	bis(2-ethylhexyl)phthalate	<10
7345	Di-n-butylphthalate**	<10
	bis(2-ethylhexyl)phthalate	72.
7346	Diethylphthalate*,**	<10
7353	Phenol**	<10
	Fluorene**	<10
	Butylbenzylphthalate	12.
	bis(2-ethylhexyl)phthalate	<10
	Di-n-octyl phthalate	<10

* Compound was also detected in the method blank.

** Value is below the limit of quantification.

Table 6. Results for Base Neutral/Acid Extractables Analysis (Cont'd)

Sample No.	Parameter	Concentration
<u>011</u>		reported as ug/g
7334	Naphthalene	150
	2,4-Dimethylphenol	150
	Hexachlorobutadiene**	20
	Fluorene**	24
	Phenanthrene**	92
	Anthracene**	11
	Fluoranthene**	18
	Pyrene**	18
	Butylbenzylphthalate**	27
	Bis(2-ethyl hexyl)phthalate	410

*Compound was also found in the method blank.

**Value is approximate due to its proximity to the detection limit.

Table 7. Detection Limits for Metals Analysis
(Concentration reported as mg/l)

Parameter	Total Concentration	Dissolved Concentration
Arsenic	.001	NA
Aluminum	.10	.20
Barium	.03	NA
Beryllium	.003	NA
Boron	2.0	NA
Cadmium	.003	NA
Chromium	.005	NA
Copper	.005	NA
Iron	.005	.01
Lead	.02	NA
Manganese	.005	.01
Nickel	.01	NA
Selenium	.002	NA
Vanadium	.10	NA
Zinc	.005	NA

NA denotes not analyzed

Table 8. Results of Total Metals Analysis - Waters

Concentrations reported in mg/l

Parameter	Sample No.									
	7346 (Blank)	7332	7333	7334	7335	7353	7341	7342	7344	7345
Arsenic	ND	.003	ND	.14	ND	.012	.008	.001	ND	ND
Aluminum	ND	7.8	.10	.20	.10	6.5	4.1	.40	.20	.20
Barium	.060	.11	ND	.44	ND	.10	.090	ND	ND	ND
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	.009	.009	.007	.026	.006	.008	.005	.005	.006	.006
Chromium	ND	.019	ND	.005	ND	.016	.030	ND	ND	ND
Copper	.010	.032	.011	.016	.010	.033	.021	.011	.010	.007
Iron	.30	7.4	.84	38.	.30	9.3	20.	1.2	.18	.35
Lead	.12	.10	.080	.080	.060	.090	.080	.060	.080	.060
Manganese	.017	1.8	1.7	31.	.019	1.4	1.9	.74	.065	.065
Nickel	.020	.080	.050	.11	.030	.050	.080	.020	.030	.030
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	.018	.091	.025	.043	.017	6.5	4.1	.40	.20	.20

ND denotes not detected

Table 8. Results of Metals Analysis - Oil
(Concentrations reported as ug/g)

Sample No. 7334

Parameter	Concentration	Detection Limit
Aluminum	1000	50.
Arsenic	8.4	.50
Barium	54.	15.
Beryllium	ND	2.0
Boron	ND	750
Cadmium	4.0	2.0
Chromium	30.	3.0
Copper	7	3.0
Iron	711	3.0
Lead	23.	10.
Manganese	78.	3.0
Nickel	5.5	5.0
Selenium	ND	1.0
Vanadium	ND	50.
Zinc	44.	3.0

ND denotes not detected

Table 9. Results of Dissolved Metals Analysis
Concentrations in mg/l

Parameter	Sample No.								
	7346 (Blank)	7332	7333	7335	7353	7341	7342	7344	7345
Aluminum	ND	.30	ND	ND	ND	ND	ND	.30	ND
Manganese	.020	.050	1.8	.030	1.3	1.8	.12	.080	.070
Iron	.20	.34	.58	.17	1.0	1.7	.27	.38	.22

ND denotes not detected

Table 10. Results of Chlorides and Bromides Analysis
(Concentrations in mg/l)

Sample No.	Chlorides	Bromides
Method Blank	ND	ND
7332	4.0	ND
7333	11.	ND
7334	310	11.
7335	6.4	ND
7341	22.	ND
7342	64	ND
7344	11.	ND
7345	11.	ND
7346	ND	ND
7353	10.	ND

ND denotes not detected. Detection limits were .5 mg/l for chlorides and 1.0 ug/l for bromides.

Table 11. Matching of Oil Fingerprinting Analysis to Diesel Fuel No. 2

Sample No.	Results
Method Blank	Negative
7332	Negative
7333	Negative
7334 (water)	Positive
7334 (oil)	Positive
7335	Negative
7341	Negative
7342	Negative
7344	Negative
7345	Negative
7346	Negative
7353	Negative